

PROCEDURE F-5-3
(formerly referenced by 08-01)

**Derivation of Sewage Treatment Works Effluent Requirements
for the Incorporation of Effluent Requirements into
Certificates of Approval for New or Expanded Sewage
Treatment Works**

PROCEDURE F-5-3**DERIVATION OF SEWAGE TREATMENT WORKS EFFLUENT REQUIREMENTS
FOR THE INCORPORATION OF EFFLUENT REQUIREMENTS INTO
CERTIFICATES OF APPROVAL FOR NEW OR EXPANDED SEWAGE TREATMENT
WORKS****1.0 General**

These procedures provide information on Regional and Branch activities, responsibilities and procedures to be followed to incorporate effluent requirements into Certificates of Approval for sewage treatment works.

The requirement to include effluent parameter concentrations and loadings in Certificates of Approval for proposed sewage treatment works is outlined in Policy 3 - Effluent Requirements in Procedure B-1-1 "Water Management -- Guidelines and Procedures of the Ministry of Environment and Energy". The legislative authority to issue Certificates of Approval with conditions is contained in Section 24 to 53 of the *Ontario Water Resources Act*. Conditional approval certificates must be accompanied by a listing of the reasons for the imposition of conditions and an outline of the appeal procedures should the applicant choose to appeal the conditions.

2.0 Administration

The administrative arrangements and areas of responsibility for incorporation of effluent requirements in Certificates of Approval are shown in Table 1.

The Regional Director's recommendations with respect to effluent requirements will be routed to the Approvals Branch for all applications.

If necessary, discussions regarding the effluent requirements may take place between the Regions and the Approvals Branch. The Program Development Branch may also be consulted for guideline and technical advice, when necessary.

The Regions will have the responsibility of auditing plant compliance. Effluent requirements will be entered into a computer system. This computer system will automatically assess the plant's compliance against the specified effluent requirements, as well as the recording of the planned remedial measures for plants out of compliance.

The major activities of the program and the lead Ministry group(s) having the overall responsibility for each activity will be as follows:

- a) oversee and expedite the implementation of the program - Regions and Approvals

Branch;

- b) establish effluent levels and special effluent sampling and analysis requirements - Regions;
- c) deal with all special and borderline cases - Regions, Approvals and Program Development Branches;
- d) issue Certificates of Approval with necessary conditions and reasons for conditions - Approvals Branch;
- e) provide coordination role in the case of appeals to effluent requirements of Certificates of Approval - Legal Services Branch;
- f) for audit purposes, keep accurate records;
- g) propose action plans for plants out of compliance - Regions;
- h) provide periodic review and prepare status reports on the progress of the program to Senior Management of the Ministry - Regions;
- i) where necessary and based on experience gained during implementation as well as study results (e.g. hazardous substance identification and removal in sewage treatment works studies, etc.), modify and refine the procedural guidelines, including specifications of additional parameters - Program Development, Approvals, and Science and Technology Branches and the Regions.

3.0 Determination of Effluent Parameters and Numbers to be used in Certificates of Approval (New Facilities, Expansions, Modifications)

Both effluent loading and effluent concentration limits are to be incorporated into Certificates of Approval for new, expansions to, or modifications to sewage treatment works. In special cases, such as fill-and-draw lagoons, other requirements such as acceptable time and rate of effluent discharge may also be stipulated as deemed necessary.

For any particular effluent parameter, the most stringent of the effluent concentrations derived from either water assessment studies, or Effluent Guidelines as given in Table 1 of Procedure F-5-1: "**Determination of Treatment Requirements For Municipal and Private Sewage Treatment Works Discharging to Surface Waters**" or other Ministry Guidelines (e.g. phosphorus removal) will normally be incorporated into Certificates of Approval. The effluent loading will be derived based on the above effluent concentration multiplied by the design average daily flow. For fill-and-draw lagoons, length of discharge period will be required.

The effluent parameters which should be documented in the Certificates of Approval will be those parameters identified by water assessment studies, Effluent Guidelines, and Ministry policies. For instance, if a water assessment study finds ammonia concentrations to be critical and, in addition, Ministry policy requires phosphorus removal, then ammonia and phosphorus along with the Effluent Guidelines BOD₅ and suspended solids effluent loading and concentration numbers should go into the Certificate of Approval. In certain circumstances, one or more effluent parameter requirements will be controlling. For instance, in the above example, if the phosphorus effluent requirement were set at 0.3 mg/l, only the ammonia and phosphorus loading and concentration numbers would have to be specified. Experience has shown that the Effluent Guidelines BOD₅ and suspended solids requirements will have been satisfied if the 0.3 mg/l phosphorus level is reached. Where necessary, timing constraints on effluent discharges shall also be stipulated.

For new facilities proposed for non-restrictive receivers, Effluent Guidelines BOD₅ and suspended solids effluent loading and concentration numbers should go into the Certificate of Approval. Phosphorus effluent numbers will be put in where applicable. As other guideline initiatives are finalized, additional effluent numbers may be required.

4.0 Existing Sewage Treatment Works

If existing sewage treatment works are found to be unable to comply with the assigned effluent requirements established, Regional staff should develop upgrading schedules with the operating authorities to allow the effluent requirements to be satisfied as soon as possible.

5.0 Compliance Assessment and Enforcement

Compliance assessment and enforcement of effluent limits will be carried out in accordance with the Ministry's Compliance Procedure F-2-1.

Table 1 Administrative Arrangements and Areas of Responsibility For Incorporation Of Effluent Requirements into Certificates of Approval

REGIONAL OPERATIONS DIVISION

- reviews water assessment studies, Effluent Guidelines in Ministry Guideline F-5 and other pertinent guidelines and background information to establish effluent quality parameters and concentration and/or loading limits
- reviews need for special effluent sampling and analysis requirements
- reviews treatment process and effluent requirements
- recommends effluent sampling and analysis requirements
- reviews reasons for conditions in Certificate of Approval.

-audits plant performance as to compliance with effluent requirements in Certificate of Approval

APPROVALS BRANCH

- reviews application and requests changes in design, if necessary
- recommends application for approval with necessary conditions and reasons
- director approves application with conditions